1: Metraux E-5 (1934-1935) 1940
OY2 Easter Islanders OY2

312 always found. I noticed on a few rocks near ancient settlements small rectangular depressions artificially carved. The natives explained them as tanks to collect rain water.

133 271 312 The water of the crater lakes (*rano*) has always been an inexhaustible reservoir but it is apparently too inaccessible to have been much used. Some early travelers report that the natives chewed sweet potatoes and sugar cane to quench their thirst when walking.

312 Today abundant water from the corrugated iron roofs is collected in tanks or barrels.

PLANT LIFE

137 Skottsberg (208, vol. 2, p. 489) writes that "there does not exist another island of the size of Easter and with such a fine climate where the native flora is so poor. Only about 30 species are considered to be indigenous." Despite the introduction of many new plants and trees, grass is still the only vegetation on most of the island. Only the crater of Rano-kao with its green belt and the farm of Mataveri are exceptions. The general appearance of the island has not changed much since its discovery; then shrubs, principally of *toro-miro*, sandalwood, *Triumfetta semitriloba*, and *Sapindus*, were seen in many places along the coast and were, perhaps, even more abundant in the interior. It is possible that when the first settlers landed on the island they found a kind of savanna forest "a park-like formation with scattered, stunted *Sophora* trees and grass cover" (208, vol. 2, p. 492). The flat, rocky plains were probably devoid of trees and the savanna confined to the hillsides.

The almost entire absence of trees impressed the ancient travelers more than any other feature. Aridity is still invoked as one of the most decisive arguments in support of the theory of some vast cataclysm which completely changed conditions on the island and reduced its inhabitants to utmost misery after a time of plenty during which their culture developed. Early voyagers, landing at various parts of the island and making hasty generalizations, differ 134 greatly in descriptions of the fertility of the land. Roggeveen holds in high esteem its ability to be cultivated (186, pp. 9-10, 21):

> The reason why, at first, when at a farther distance off, we regarded the said Easter Island as being of sandy nature is that we mistook the parched up grass, and hay or other scorched and charred brushwood for a soil of that aride nature, because from its outward appearance it suggested no other idea than that of an extraordinarily sparse and meagre vegetation; and the discoverers had consequently bestowed upon it the term sandy.
>
> . . . Nor can the aforementioned land be termed sandy, because we found it not only not sandy but on the contrary exceedingly fruitful, producing bananas, potatoes, sugarcane of remarkable thickness, and many other kinds of the fruits of the earth, although destitute of large trees and domestic animals, except poultry. This place, as far as its rich soil and good climate are concerned, is such that it might be made into an earthly Paradise, if it were properly worked and cultivated; which is now only done in so far as the Inhabitants are obliged to for the maintenance of life.

1: Metraux E-5 (1934-1935) 1940
OY2 Easter Islanders OY2

134 ●
311

The Spaniards with Gonzalez (90, p. 90), who anchored off the north coast, judged the soil of the island to be fertile. "The country inland . . . appeared to us to be fertile, as we observed no broken ground, nor precipices nor stony places throughout it, but various valleys and plains forming the mountain plateaux as it were, and quite covered with greenery as far down as the sea-beach, showing the fertility of the country." After a more intimate knowledge of the island, the Spaniards declare: "The fields are uncultivated save some small plots of ground, in which they sow beds of yucca, yams, sweet potatoes, and several plantations of plantains and sugar cane: but all very tasteless, as if from want of cultivation." Gonzalez's officer, who went around the island in a launch, noted in his report (90, p. 121) that the Hanga-roa Bay area had more gardens than any other part of the island.

Cook and Forster are largely responsible for the impression of desolation created about Easter Island. Even before landing, G. Forster (83, vol. 1, pp. 556-559) was struck by the barrenness of the island; he noticed from the ship only a few plantations to the north of present Hanga-roa. When ashore, he visited at Hanga-roa Bay some plantations of bananas, sugar cane, yams, sweet potatoes, and taro.

The expedition sent by Cook to explore the interior of the island went from Vaihu across "a number of plantations of bananas, potatoes and yams, and one of eddoes" (53, vol. 1, p. 587). Between Vaihu and Hanga-nui, they proceeded inland where they found "many remaining proofs of its having been formerly cultivated." Between Hanga-roa and Vinapu they saw "several large tracts planted with potatoes and some plantain walks." The slopes of Rano-aroi seem to have been completely void of cultivation (53, vol. 1, p. 281). J. R. Forster (84, p. 155) "found the whole island very poor in vegetables; and though I walked over a great part of it, I found no more than about twenty plants, including those that are cultivated, and no trees at all, which is very remarkable on an isle of this extent, under so fine a climate, and inhabited for a long time past." Cook (53, vol. 1, p. 282) reports of this reconnoitering party that "for about three miles [doubtless from Vinapu] they found the country very barren, and in some places strips of the soil to be bare rock which seemed to be a poor sort of iron ore. Beyond this, they came to the most fertile part of the island they saw, it being inspersed with plantations of potatoes, sugar-cane and plantain trees, and these not so much encumbered with stones as those which they had seen before."

La Pérouse (130, vol. 1, p. 71) estimates that one tenth of the surface of the island was cultivated, and he is convinced that three work days were "sufficient to procure the Indian subsistence for a year." De Langle, naturalist of La Pérouse's expedition, followed more or less the same itinerary as Forster and makes a similar report. Rollin, who also accompanied La Pérouse, gives

1: Metraux E-5 (1934-1935) 1940
OY2 Easter Islanders OY2

a description of the country which seems to be accurate (130, vol. 2, p. 238): "The aspect of Easter Island is not so barren and disgusting as navigators have told us. It is indeed almost destitute of wood, but the hills and valleys exhibit, in the eyes of seamen at least, a most agreeable verdure. The size and goodness of their potatoes, yams, sugar canes, etc. are proofs of great fertility and strong vegetation."

Contrary to their predecessors, the travelers of the nineteenth century who saw Easter Island were impressed by its apparent fertility and the richness of its plantations. Delano (5, p. 356) says of the west coast in the year 1804: "The greatest part of the island had the appearance of being capable of cultivations, and much of it was cultivated in beautiful plantations." Lisiansky (143, pp. 52-54) finds that "the eastern part of Easter Island is very pleasant. It is covered with verdure and many spots of it appeared to be planted with bananas. . . The neighborhood of the last two mentioned monuments (Vinapu) contained a greater number of habitations, and seemed better cultivated than any other spot we had yet seen. . . . The northern side appeared to be but thinly inhabited." Choris (48, p. 11) writes in 1822: "The aspect of the island was rather arid, but it appeared to us less miserable than to Cook or La Pérouse. All the higher slopes were divided in fields planted with various vegetables, whose varied nuances produced a very pleasant effect." Beechey (15, pp. 41-42) observes that the valleys were well cultivated and that the greatest attention appeared to be paid to tilling the soil. Palmer (169, p. 374) had the impression that everything was in ruins, though there were evidences of former cultivation.

In spite of Roussel's judgment (190, p. 495) to the contrary, Easter Island is fertile. Skottsberg (208, vol. 2, p. 488), our best authority on the subject, states that "where there is sufficient soil this is of good quality and quite fertile when properly cultivated, and in prehistoric and early historic times extensive plantations existed supporting a population of several thousands."

The present-day population of 456 souls is concentrated in the village of Hanga-roa. They cultivate the neighboring fields at the foot of Rano-kao and Rano-aroi. According to Mr. Edmunds, former manager of the island, two acres are necessary to support a whole family, and I am convinced that his statement is correct.

It is important to determine, as far as possible, the extent of cultivable land on Easter Island, for on this may be based an estimate of the number of inhabitants and in turn the probability that they could accomplish such a huge project as the carving of the famous statues. From a study of reports of ancient travelers and from my own observations of the island resources, I am convinced that three or four thousand natives could live on the island without fear of hunger except in time of war.

9: Forster T-5 (1774) 1777
OY2 Easter Islanders OY2

we ſaw no tools; or raiſed and erected by them without machinery. The general appellation of this range was *Hanga* Teaòw; hanga being the word which they prefix to every range. The names of the ſtatues were *Ko**-*Tomoaï*, *Ko-Temoèrre*, *Ko-Hòo oo*, *Morobèena*, *Oomarèeva*, *Weepdloo*, *Weenapè*.

1774. MARCH.

"From hence we continued our march to the northward along the ſea, having a precipice on our right. The ground was the ſame ferrugineous *tufa* for a conſiderable way, covered with ſmall fragments; but after ſome time we came to a ſpot which was a ſingle coherent rock or lump of black melted lava, which appeared to contain ſome iron. There was no ſoil, graſs, or plant whatſoever upon it. Beyond it we paſſed through a number of plantations of bananas, potatoes, and yams, and one of eddoes. The graſs between the ſtones was plucked up and ſpread on the land, to ſcreen it from the ſun, to keep the moiſture of the rain in it, and at laſt to manure it.

"The natives continued to offer ſome potatoes for ſale ready dreſſed, and, at a hut where we halted, they ſold us ſome fiſh. Some of them carried arms, which were no other than the thin ſticks we had ſeen before, and which were headed with a black vitreous lava, carefully wrapped in a ſmall piece of cloth. Only one of them had a battle-axe, reſembling that of the New Zealanders, though much ſhorter. It had a head carved on each ſide, and a ſmall round

* *Ko* is the article, as at New Zealand and in the Friendly Iſles.

 round

10: Cooke D-5 (1886) 1899
OY2 Easter Islanders OY2

cairn, is 1,100 miles, and the South American coast is 2,100 miles to the eastward. [31]

The island is irregularly triangular in shape. Its greatest length from NE. to SW. is 13 miles; its greatest width from North Cape to Cape Hoe-Hoe, in a direction from NNW. to SSE., is 7 miles. The circumference, measuring from headland to headland, is about 34 miles, and the area of the island is 34 square miles.

The surface is diversified mountain and plain, the former usually rising abruptly from the latter, and generally at a distance from each other, so that, with one or two exceptions, it can hardly be said that there are valleys, strictly speaking. The mountains—a goodly number in proportion to the area of the island—are mostly cone shaped, and not of very great elevation, the tallest, near Cape North, being but 1,767 feet high. The most extensive plain is at the base of Rana Roraka, extending thence in a westerly direction for several miles, and it is believed that in ancient times a large town existed on this site, in whose vicinity all the monoliths were carved. [33]

The coast line on the southern and western sides, except at the extreme southwest and where Rana Kao looms up, is generally low, but extremely rocky. The northwestern, northern, northeastern, and eastern coasts are a succession of black, frowning, precipitous, basalt cliffs, worn into innumerable caves by the erosion of the sea, and with huge attached bowlders scattered at the base, over and against which the waves dash with resistless fury, forming a veritable iron-bound coast. Many of the caves thus formed have been inhabited and have also been used as burial places; and the remains of human beings, with implements interred with them or secreted by the modern natives, sometimes reward the diligent searcher. [172]

There are but two or three points around the entire coast line at which a sandy beach may be met with. One of these, small in extent, is on the south side, near Mr. Salmon's residence at Vaihu, in a picturesque little bay, used as a bathing ground and boat landing.

Another, and much the larger, forms the beach of Anakana Bay on the north side of the island, the legendary landing place of Hotu Metua, and by far the best and safest boat harbor around the coast.

The soil is for the most part decomposed or disintegrated lava, nowhere of any great depth, but exceedingly fertile and in places, as for example, where excavations were made inside of cairns, it was found of the fineness, color and richness of garden mold. [134]

Except where a few clearings have been made, nearly the entire surface of the island is covered in astonishing profusion with fragments of lava, varying in size from that of a pebble to that of a huge bowlder. They are nearly black in color, hard, sharp, angular, weather-worn; and it is these, in places *covering* the ground, which render pedestrianism so difficult and laborious.

Until supplied with wood from wrecked lumber vessels the modern [342]

10: Cooke D-5 (1886) 1899
OY2 Easter Islanders OY2

342 natives built many of these huts, the cairns for the dead, and other buildings, of these lava blocks, loosely piled up, and Messrs. Salmon and Brander apply them to good use in constructing their extensive corrals and fences, with the added advantage of thus clearing the soil for planting, wherever desirable.

137 A coarse hummock grass and a variety of finer quality grow profusely over nearly the entire island, sprouting vigorously among the lava fragments, and affording abundant pasturage for the herds of cattle, horses, and sheep, the former numbering 600 and the latter 18,000 at the time of our visit, and both multiplying rapidly.

● 134 On the northeastern end of the island, and on the slopes of Mount Pun-ko-taki, the surface is covered with fine, red, volcanic sand and dust, which is kept in constant motion by the winds, and is barren of vegetation of any kind.

132 At the time of our visit, December, which is during their dry or summer season, extending from October to April, the periods of the 312 southeast trades, there were no running streams on the island, nor, with the exception of the valley at the base of Rana Kao, were there any evidences of the former existence of such visible. Fresh water away from the habitations was exceedingly scarce and difficult to obtain, although showers of rain at night were not infrequent.

312 The alleged springs or wells, including *Puna Pua*, the "Unfailing Spring," so highly spoken of by former visitors, were at long distances apart, were merely shallow excavations among the bowlders into which the surface water percolated, and were covered to protect them from the animals. The water contained in them was rarely of more than a few bucketsful in quantity, and with a single exception, at Camp Whitney, of bad quality. That contained in the lakes inside the two craters, the accumulations of the rainy seasons, and surface drainage also, was fully as bad, and impregnated both with vegetable and animal matter, the former from the dense growth on the surface, the latter from the herds of cattle which came to the lakes to drink.

271 It may be mentioned in this place that the natives, from long habit, no doubt, have become accustomed to drink but sparingly. We were surprised, during our expedition around the island, to notice how rarely they resorted to the canteen, with which all were provided, and they, no doubt, were equally amazed at our constant demand for water, made necessary to replace the loss from perspiration, induced by violent exercise and the sun's heat. They were always careful to locate our camp near, and anxious to keep us well supplied with, as good water as was to be had, and when we broke camp in the morning the "springs" in the vicinity were usually drained dry.

312 It was at first a mystery to us whence the animals obtained their supplies, but as to the cattle, they never wandered far away from the craters, in whose lakes they could, at all seasons, quench their thirst. In so far as the sheep were concerned, whose needs in this respect are

15:Routledge E-5 (1914-1915) 1919
OY2 Easter Islanders OY2

of the primitive existence which continued on Easter Island till the middle of last century. It will be seen that the condition of the people on the coming of Christianity, as we were able to ascertain it, corresponded almost exactly with that described by the first visitors from Europe, more than a hundred years earlier. Such traditions as linger regarding the megalithic remains have already been alluded to earlier in this book, but attention will be drawn to the point whenever this line of research seems successful in throwing indirect light on the origin of the great works.

Mode of Life.—The present natives, in talking of old times, say that their ancestors were "as thick as grass," and stood up like the fingers of two hands with the palms together; a statement from which deduction must be made for pictorial representation. The early mariners never, as we have seen, estimate the population at more than two thousand, but the land could carry many more. Mr. Edmunds calculates that about half of the total amount (or some 15,000 acres) could grow bananas and sweet potatoes. Two acres of cultivated ground would be sufficient to supply an ordinary family.

Housing accommodation presented no great problem. Many slept in the open, and even to-day, in the era of Christianity and European clothes, a cave is looked upon as sufficient shelter. When on moving from our "town" to our "country" house we inquired where our attendants were to sleep, we were cheerfully informed "it was all right, there was a very good cave near Tongariki"—and this cave, called Ana Havea, became a permanent annexe to the establishment (fig. 124). Some of these caves had a wall built in front for shelter.

Houses, however, did exist, which were built in the form of a long upturned canoe; they were made of sticks, the tops of which were tied together, the whole being thatched successively with reeds, grass, and sugar-cane. In the best of these houses, the foundations, which are equivalent to the gunwale of the boat, are made of wrought stones let into the ground; they resemble the curbstones of a street pavement save that the length is greater. In the top of the stones were holes from which sprang the curved rods, which were equivalent to the ribs of a boat, and formed the walls and roof (figs. 84 and 85). The end stones of the house are carefully worked on the curve,